

**CHEMIST****DEFINITION**

Under general supervision, performs organic and/or inorganic chemical analyses of environmental samples including water, groundwater, wastewater, sludge, soil, air emissions, and similar material.

**SUPERVISION RECEIVED/EXERCISED**

Receives supervision from the Wastewater Environmental Supervisor or designee. This class may provide lead direction to laboratory staff; this class does not exercise supervision.

**DISTINGUISHING CHARACTERISTICS**

Chemist is an advanced-level technical class. Incumbents perform and/or oversee the performance of complex chemical analyses of environmental samples using sophisticated laboratory instruments including, but not limited to, Inductively Coupled Plasma (ICP), Inductively Coupled Plasma Mass Spectrometry (ICP/MS), Gas Chromatograph (GC) or Gas Chromatograph Mass Spectrometry (GC/MS). Assigned duties are performed with considerable independence with results achieved through precision and accuracy, and proficiency in the performance of analyses. This class differs from Wastewater Environmental Supervisor in that the latter is the first-line supervisory class in which the incumbent is assigned overall responsibility for the laboratory. Chemist differs from Senior Laboratory Technician in that incumbents of the latter provide lead direction to laboratory staff assigned to the day-to-day tasks in the general laboratory.

**EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES**

Performs complex and specialized quantitative analyses of water, groundwater, wastewater, drinking water, sludge, bio solids, soils, air emissions and other matrices.

Operates and maintains sophisticated laboratory equipment including inventory of replacement parts, troubleshooting equipment and preparing for equipment upgrades as needed.

Trains laboratory staff in the procedure and theory of organic compounds and heavy metal analyses.

Assists in the development of the laboratory Quality Assurance/Quality Control program for organic compounds and heavy metal analyses.

Records test data and keeps records pertaining to analyses through the interfacing of various instruments with the Laboratory Information Management System.

Performs complex calculations in analysis determination and report writing.

Performs related duties as required.

## **JOB RELATED AND ESSENTIAL QUALIFICATIONS**

### **Knowledge of:**

The care, maintenance, and operational requirements of laboratory instruments for the analysis of environmental samples.

Laboratory practices and Quality Assurance/Quality Control procedures.

EPA approved methods for testing of environmental samples and development of alternate methods.

Environmental Laboratory Accreditation Program requirements.

### **Ability to:**

Utilize instrumentation including, but not limited to, GC, GC/MS, ICP ICP/MS and instrument specific software.

Develop standard operating procedures.

Prepare clear and accurate scientific reports including graphic and statistical representations.

Perform chemical analysis using EPA methods and laboratory approved methods for analysis of waters, soil and other matrices.

Perform routine instrument maintenance.

Perform laboratory testing according to method or lab criteria in a safe and efficient manner.

Review analytical data and quality control data associated with the analytical results for acceptance.

Assist in training staff in procedures pertaining to organic and /or inorganic metals analyses.

Establish and maintain effective working relationships.

### **Skill to:**

Operate modern office equipment, including computer equipment.

Operate a motor vehicle safely.

## **MINIMUM QUALIFICATIONS**

For Assignment to the Organic Laboratory: Graduation from an accredited college or university with a Bachelor's degree in chemistry, biochemistry, biology or closely related field; and one (1) year of

experience in the organic chemical analysis of environmental samples, including sample preservation, and the preparation and use of equipment such as Gas Chromatographs, Gas Chromatographs/Mass Spectrometers and other complex laboratory instruments for the testing organic compounds on water, groundwater, wastewater, soils, sludge, bio solids and air emissions.

For Assignment to the Inorganic Laboratory: Graduation from an accredited college or university with a Bachelor's degree in chemistry, biochemistry, biology or closely relate field; and one (1) year of experience in the inorganic chemical analysis of environmental samples including sample preservation and preparation and the use of Inductively Coupled Plasma Atomic Emission Spectrometry, Inductively Coupled Plasma Mass Spectrometry and other complex laboratory instruments for the testing of inorganic heavy metals on water, groundwater, wastewater, soils, sludge or bio-solids.

**Special Requirements**

Possession at time of appointment and continued maintenance of a valid California Class 'C' Driver's License.

Possession of a valid California Water Environmental Association Laboratory Analyst Grade II Certification within two (2) years of appointment.

APPROVED: (Signature on File) DATE: 2/15/2019  
Director of Personnel Services

MR/MPA/jl/1/30/91  
+679/SPEC9  
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